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A historical survey of the origins of formative evaluation techniques for film and television reveals that: (1) most of the methodologies for formative evaluation of film and television that are in use today had appeared in one form or another by 1940; (2) before 1940, evaluation was generally understood as qualitative judgement of the worth of an educational product; (3) the evaluation tradition developed apart from media research, though research findings were incorporated into production formats and evaluation checklists in the late 1930's; and (4) the interest of applied psychologists in the late 1930's in educational radio effectiveness spurred a trend toward more rigorous evaluation methodologies, and blurred the lines between evaluation and research.

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THE ORIGINS OF FORMATIVE EVALUATION TECHNIQUES FOR FILM AND TELEVISION: A Historical Analysis

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ABSTRACT

A historical survey of the origins of formative evaluation techniques for film and television reveals that

(1) Most of the methodologies for formative evaluation of film and television that are in use today had appeared in one form or another by 1940.
(2) Before 1940 evaluation was generally understood as qualitative judgment of the worth of an educational product.
(3) The evaluation tradition developed apart from media research, though research findings were incorporated into production formats and evaluation checklists during the 1930's.
(4) The interest of applied psychologists in the late 1930's in educational radio effectiveness spurred a trend toward more rigorous evaluation methodologies and blurred the lines between evaluation and research.

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I owe a debt of gratitude to Alex Haley for making it fashionable these days to speak of searching for origins. For the past few months I have been engaged in finding the roots, not of a person, but of a concept--the concept of try-out and revision of instructional materials that has been known since 1967 as formative evaluation. When I suggested to a friend that I was going to study the history of formative evaluation techniques, he asked me if I intended to start with the invention of the wheel. My friend's hyperbolic humor aside, his remark gave me pause. If, as a matter of fact, try-out and revision is an innate part of the creative process, as we can imagine it was in the invention of the wheel, that is all the more reason to look closely at its history and relationship to the process of instructional development. If formative evaluation is an innate component of the creative process, failure to use it in the development of instructional products might very well explain the lack of quality and creativity evident in many instructional programs and materials today. And, taking it one step further, if formative evaluation is indeed an innate part of the creative process, perhaps attempts to use traditional research methodologies for feedback and revision purposes are misleading and abortive and the more flexible techniques of qualitative research are of much more use.

But these are broad generalities that we are not yet prepared to make, since the field of educational technology, and specifically the area of instructional development within that larger context, has not yet really adopted the formative evaluation component for its own use. While definitions, models, and endorsements abound, as exemplified in textbook descriptions, the procedures are rarely incorporated into the development process as consistently as are learner, task, and concept analyses. Perhaps this is an indication that developers are not yet aware of when and how formative evaluation can help them to

produce a better program or product in their own particular set of circumstances. Or maybe they don't know about formative evaluation at all.

Formative evaluation presents a unique challenge to the instructional developer. It is a process so eminently logical that it defies contradiction, and so methodologically diverse that it precludes systematization. It has been tried and used successfully in qualitative, creative formats as well as in the form of rigorous, empirical research designs. It is a subject matter for model-making, theoretical speculation, and interdisciplinary disagreements. One of the few points of consensus is that, if used more often, formative evaluation techniques would contribute to the development of more successful instructional programs and products.

A phenomenon that has created so much interest and activity deserves close scrutiny. Historical inquiry seems especially appropriate, for it promises to provide some insights about formative evaluation that would clarify the discrepancies that now exist.

I chose to focus on instructional film and television because I assumed that their complexity and expense would incorporate all possible information needs and evaluation techniques applicable to simpler media. So far I have not been disappointed. What follows, then, is what I have found out to date about the origins of formative evaluation techniques for film and television. It focuses on the 1920's and 30's, the earliest years of instructional technology when educational film and radio were in their infancy.

My first task was one of definition--a significant challenge in view of the fact that the relatively new fields of evaluation and instructional development still suffer for want of conceptual clarity and universally accepted terminology. The inclination was to strip the concept to its most simple form, ignoring for a moment the complexities accumulated

through the evolutionary process. At the same time it was important to accept a definition that encompassed the operationalization of the concept in a comprehensive way. Sanders and Cunningham (1973) provided a comfortable compromise.

Building on conceptual understandings of evaluation through the years, and on Michael Scriven's clarification of the roles of evaluation when he applied the term formative in 1967, Sanders and Cunningham define formative evaluation as:

> "...the process of judging an entity or its components, that can be revised in form, for the expressed purpose of providing feedback to persons directly involved in the formation of the entity."
> (Sanders and Cunningham, 1973)

My second task, and it is an on-going one, so I will speak of it in the present tense, is to analyze available materials within specified time periods for evidence of methodologies that fit the definition of formative evaluation. A chronological framework provides the basic structure, and several key concepts guide me through the content analyses of available literature.

The content analyses include an investigation of the role played by different media characteristics in the development of formative evaluation procedures, and an attempt to demonstrate that formative evaluation methodologies had their origins in the early days of instructional media's brief history.

An underlying interest in my effort to document the history of formative evaluation methodologies is the perceived relationship between evaluation and empirical research at various points in time. This promises to be an especially significant area for investigation, with interesting implications for what seems to be the relationship between evaluation and research today.

So it is with the Sanders and Cunningham definition and a specific scheme for content analysis that I am looking back into history. (Figure 1)

The first two decades of this century saw the slow emergence of instructional films from the theatrical film tradition. By 1920, a number of schools across the country were purchasing motion picture projection equipment, only to find a dearth of material worth projecting. Most of the films available for school use were commericaliy produced for advertisement, propaganda, or entertainment purposes, and retitled for schools without regard for quality. It wasn't long before the novelty of the medium wore off, and teachers were calling for quality control of the films they were to use in their classrooms. (Figure 1) A complaint appeared in the second issue of Visual Education in 1920, with an editorial response that might have a familiar ring to some of us even today. "The rising generation must have its movies," the editors of Visual Education said:

> We believe it is infinitely better for schools and community centers to show all that is possible of the less objectionable material now available than to leave the theaters entirely alone to exercise their mighty influence upon the plastic minds and hearts of America's children. We cannot wait for the perfect educational films, which will surely come. The demand is here ahead of the supply. It must be met. When bread cannot be given to the hungry, even crackers are comforting and helpful.
>
> (Visual Education, 1 (2), 1920, p. 46)

Not satisfied with crackers, L.L. Thurstone (1920) and other leading educators in that same year, 1920, proposed a rather obvious solution to the problem in suggesting that talents be combined for the production of educational films. Thurstone recommended that production staffs be expanded to include subject matter experts and professional pedagogues. It wasn't long before the idea caught on, and the first formative evaluation technique for film, expert appraisal, became an established practice. (Figure 1)

By 1930, most major educational film endeavors included some systematic use of expert judgment during film production stages with varying degrees of success. One of the more sophisticated examples was the "Conference Method" of film production developed by ERPI Films, Inc. The method was described as "group judgment which weighs the teaching value of each individual element." (Devereaux, 1933, p. 6) The process began with a comprehensive survey of a field to determine needs, topics, and objectives for a proposed film series, and ended with a final review of the completed picture by the production and research specialists and the sponsors of the new film. In between was a task analysis and production and revision schedule quite impressive for its time.

It was soon evident that systematic evaluation implied the formulation of criteria by which the relative quality of films could be judged. (Lemler, 1938) To accomplish this, the middle 30's saw the proliferation of checklists designed to accomplish several purposes. One purpose was to make the efforts of empirical research pay off by utilizing motion picture research findings for the establishment of evaluation criteria. A second was to provide educational film producers with a list of characteristics and standards by which decisions about educational films could be made before and during production. And a third purpose of the checklists was to aid distributing agencies and film users in selecting appropriate motion pictures for their needs. Generally the checklists covered categories such as subject matter, methods of presentation, and technical make-up of the films. (Doane, 1936; Devereaux, 1933; Wenger, 1938; Goodman, 1941). The checklist movement represented a significant attempt at merging empirical and applied research; at utilizing scientifically replicable processes to produce pragmatic real-world outcomes.

By the middle 30's, then, we find evidence of the development of

several major formative evaluation techniques for the production of educational motion pictures. (Figure 1) Notice that all of the techniques discussed so far are from professional sources. That is, evaluation-type data leading to revision decisions are collected from experts more or less involved in the production process. It was the radio medium that expanded the sources of data collection for formative evaluation purposes to the intended target audience. Marketing researchers had long since been involved in measuring the effectiveness of their products by target audience analyses, so it was not surprising that audience research techniques developed by the advertisement and entertainment industries were adopted for evaluating educational radio programming.

One of the more exciting moments of my investigation so far has been the discovery of an obscure little "Report of Radio Activities of Station WBOE" in Cleveland, Ohio, dated 1938-1939. It uncovered what, as far as I can determine, was the first definitive endorsement and use of field-testing of a prototype version of an educational media product on a sample of the intended target audience. The WBOE personnel saw evaluation as a "continuous process," and they consistently used a field testing methodology to evaluate prototype versions of their broadcasts. (Figure 1)

In 1939, the Journal of Applied Psychology devoted a complete issue to radio research. In his contribution as guest editor, James Porter indicated that, from a psychologist's point of view, radio research follows the pattern of other areas of social concern. The research paradigm includes the pretesting in whole or in part of the product. While psychologists indicated no particular interest in film or magazine research, radio research was of special concern, according to Porter, for three reasons:

1) the rapid growth of broadcasting without time to build up a tradition,

2) the isolation of radio from the public, with no natural indicators of success, and

3) the promising future of broadcasting.

In 1939, at least, psychologists were eager to show the educational media world that their well-developed inventory of indices would contribute to making radio more effective. It would seem that their early involvement in the development of educational radio effectiveness did, in fact, contribute significant data-collection strategies and abetted the adoption of more rigorous standards in evaluation research. Eventually it led to program analyzer studies that dominated the 1940's. (Figure 1)

At the risk of stating the obvious, let me say in conclusion that what I have presented today is less than complete. I have given a brief overview of the available literature on the first forty years of educational technology as it relates to the development of formative evaluation techniques for film and television. Several interesting facts have surfaced, clarifying the historical perspective and shedding light on the present state-of-the-art. There are five such facts:

1. Most of the methodologies for formative evaluation of film and TV that are in use today had appeared in one form or another by 1940.

2. Before 1940 evaluation was understood as the process of assessing the value of media products. It was typically qualitative in nature.

3. The evaluation tradition developed apart from media research, although research findings were incorporated into production formats and evaluation checklists during the 1930's.

4. The interest of applied psychologists in the late 30's in educational radio effectiveness spurred a trend toward more rigorous evaluation methodologies and blurred the lines between evaluation and research.

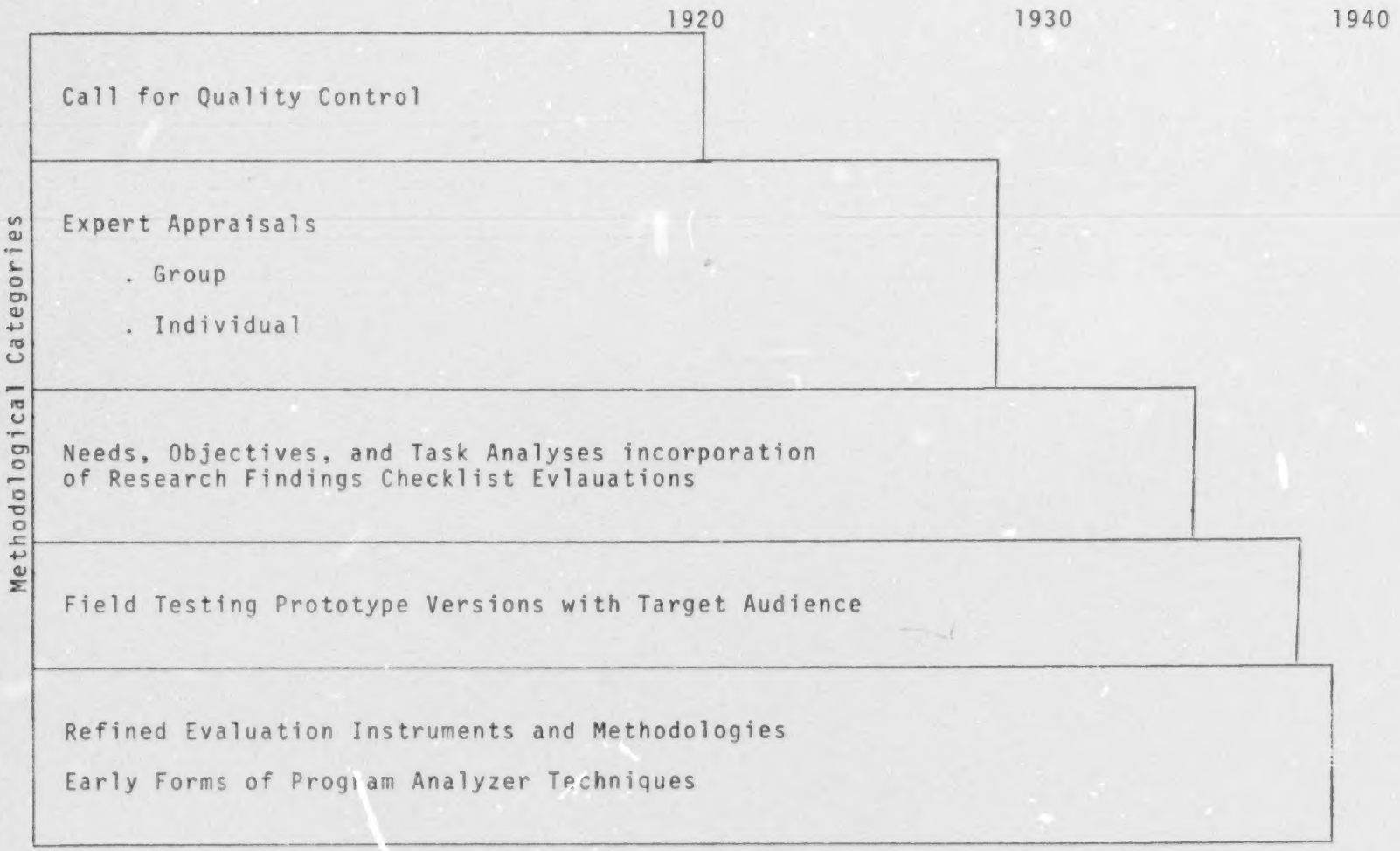
And, finally, from the perspective of the present,

5. There is evidence today to suggest that research methodologies have not served the needs of media evaluation as thoroughly as had been hoped, and the movement is toward a return to qualitative techniques.

It is clear to me, and I hope I have presented a convincing case to you, that a historical analysis of formative evaluation promises to make an appropriate and timely contribution to educational inquiry.

Figure 1

Historical Development of Formative Evaluation Techniques for Film and Television



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